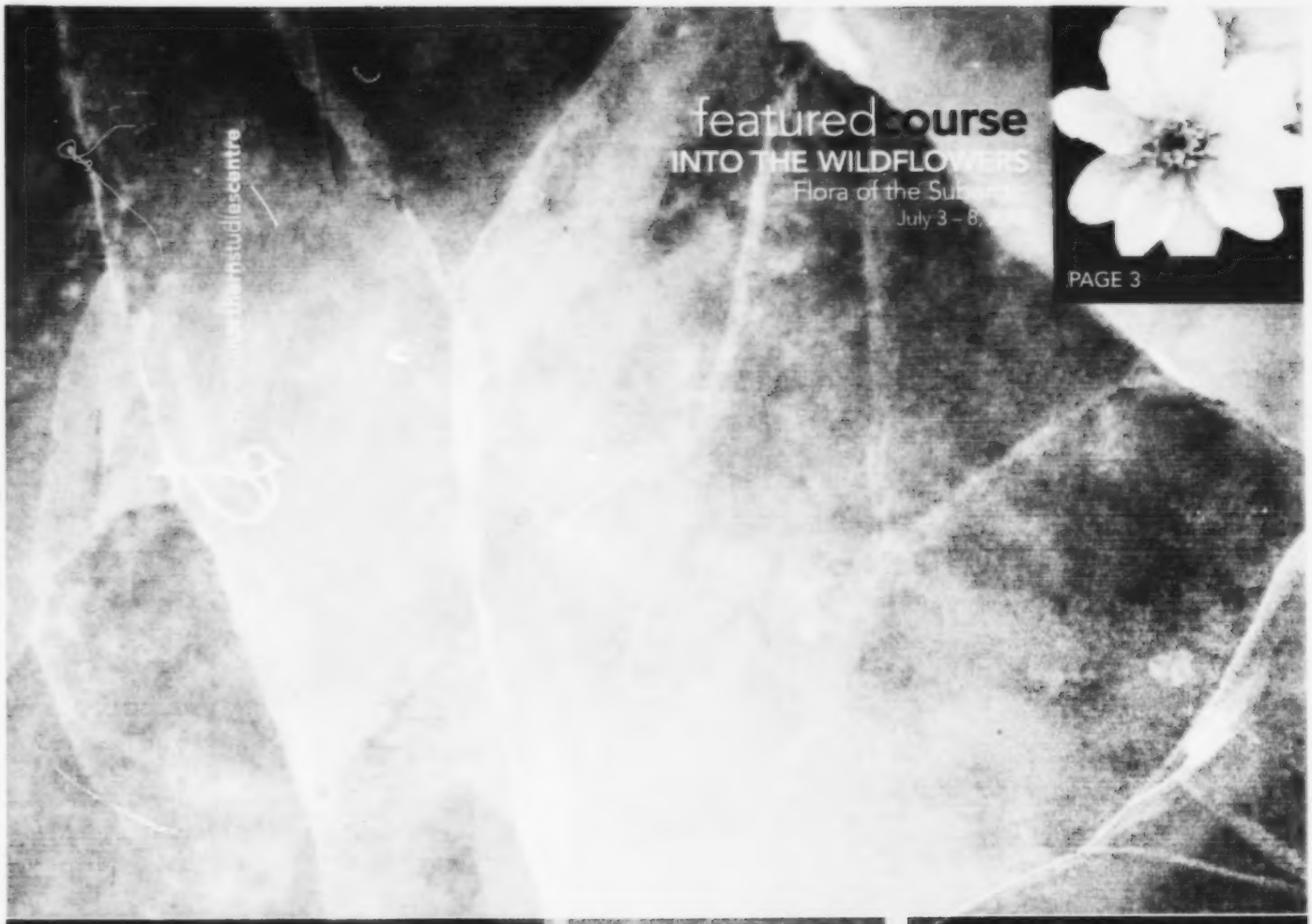


featured course
INTO THE WILDFLOWERS
Flora of the Su
July 3 – 8

PAGE 3

THE BIRDFISH

WINTER/SPRING 08

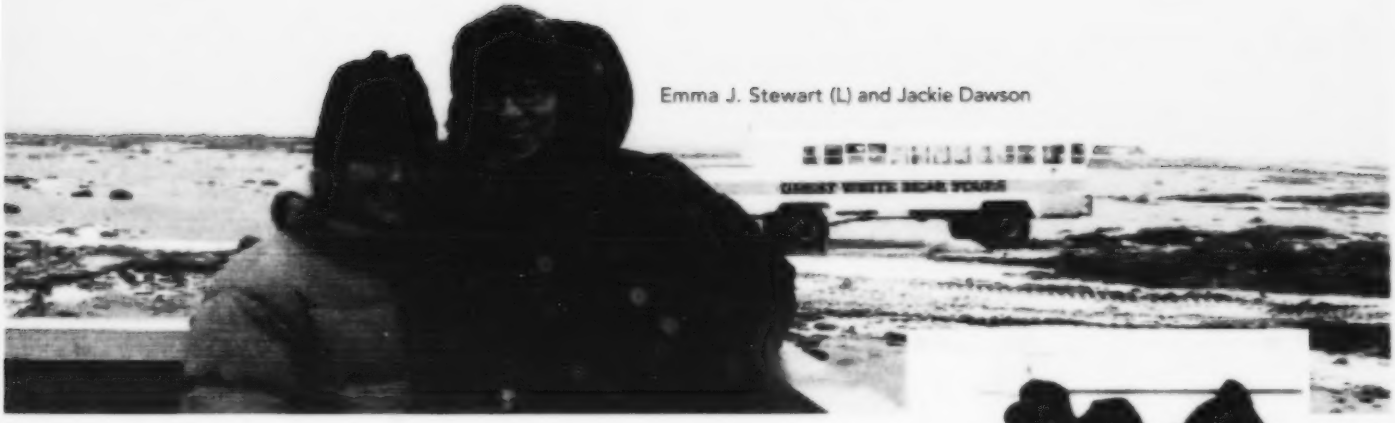
Churchill Northern Studies Centre
Newsletter

INSIDE:

CLIMATE CHANGE AND THE FUTURE OF TOURISM PAGE 2

CHILLY IN CHURCHILL PAGE 4

HUGH JONES PAGE 6



Emma J. Stewart (L) and Jackie Dawson

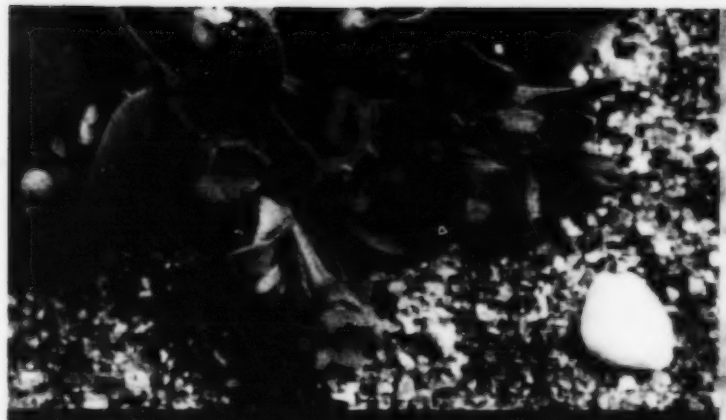
Climate Change Vulnerability of the POLAR BEAR VIEWING INDUSTRY in Churchill, Manitoba

by Jackie Dawson, Ph.D. Candidate, University of Waterloo

With the International Polar Year upon us, there has been much focus on the potential impact of global climate change in the north. Considering the Arctic is warming at twice the rate of the rest of the world this focus is certainly warranted. For Churchill, Manitoba, an internationally renowned destination for Arctic wildlife viewing (particularly polar bears), this could mean significant changes to the nature-based tourism industry and implies an urgent need for research. Emma J. Stewart, a Ph.D. candidate at the University of Calgary teamed up with Jackie Dawson, a Ph.D. candidate at the University of Waterloo, to specifically examine the potential climate change vulnerability of Churchill's six week polar bear viewing season. The study evolved from an earlier project conducted by Stewart which examined resident perceptions of tourism in Churchill finding that many local residents were concerned about the possible impact of climate change on Churchill's tourism industry (see – **http://tourism-in-churchill.blogspot.com/** for more information on this project).

Examining climate change vulnerability involves investigating possible changes to both the supply side (i.e. impacts on the bears and natural resources required for viewing) and the demand side (i.e. the visitors themselves) of polar bear viewing in Churchill. It has now been confidently reported that the already observed decline in sea ice, amongst other influences, has and will continue to significantly threaten the sustainability of polar bears in the region. Spring ice break-up is already occurring earlier than it used to and fall freeze up is occurring later, meaning there is less time for polar bears to feed and nourish themselves out on the sea ice. This in turn may impact the polar bear viewing industry in Churchill. The question that remains to be answered, however, is: will tourists continue to visit Churchill even if there are fewer or no bears present?

Tourists visiting Churchill to view polar bears during the months of October and November in 2007 were asked to fill out a visitor survey upon their departure. Surveys will again be disseminated during the upcoming 2008 season and will supplement the data collected thus far. Preliminary results from the first year of study suggests that the majority of visitors would return to the region again to either see polar bears (50%) or beluga whales (59%). Most respondents (82%) indicated that even if environmental conditions altered the population dynamics of polar bears so much that they were able to view only a quarter of the number of bears they actually saw on their 2007 visit, they would still visit Churchill. This finding holds positive prospects for the future sustainability of the polar bear viewing industry under the possible effects of a changing climate. However, if visitors were not guaranteed to see any bears (i.e. they may or may not see them – as is projected in some future studies), just 21% of visitors indicated that they would definitely still visit Churchill. The majority of visitors indicated that if they could not view polar bears in Churchill, they would travel somewhere else to see them (72%) and would pay more in order to do so (70%), indicating that there remains a very strong market for polar bear viewing generally. If you would like more information on this on-going study please contact Jackie Dawson at **jpdawson@fes.uwaterloo.ca**. You can also visit www.fes.uwaterloo.ca/u/jpdawson for ongoing updates and final results.



featuredcourse

INTO THE WILDFLOWERS

Flora of the Subarctic

July 3 – 8, 2008

$ 900 CDN

Instructor: Dr. Karen Johnson

Participants: 16

Discover the colour and diversity of the northern plant world on this botanical tour of the subarctic. Spring brings successive waves of beauty, as boreal and arctic wildflowers carpet the landscape in their short but productive season. With over 500 different vascular plants, not to mention countless species of mosses and lichens, Churchill will challenge and intrigue any botanist. Join us as we explore a range of different habitats, from lichen woodlands and wet sedge tundra to dunes, fens, heaths and beaches. Keep an eye out for caribou and foxes! Learn about medicinal and edible plants, plant recognition and plant photography. Positively ID tough specimens with a visit to our in-house herbarium. A tour of Churchill's own, Boreal Projects Greenhouse showcases creative gardening techniques in a northern climate. Round out your trip with a tour of the Churchill River for some beluga whale watching and a visit to town, featuring the Parks Canada Interpretive Centre and the Eskimo Museum.

Your instructor, Dr. Karen Johnson, is the former Curator of Botany at the Manitoba Museum. In the mid-1980's, Dr. Johnson literally wrote the book on the wildflowers of Churchill. After numerous printings, Wildflowers of Churchill and the Hudson Bay Region, remains an essential reference for both amateur and professional botanists alike. Since retiring from the Museum, Dr. Johnson has been an active member of the Nature Conservancy of Manitoba's Science Advisory Committee and one of the editors of the recently released Encyclopedia of Manitoba.

Through her experience and knowledge of the area, Dr. Johnson aims to give course participants a glimpse into the tremendous plant diversity found at the juncture of the Arctic and the subarctic. Register today by contacting cnsc@churchillscience.ca or calling (204) 675-2307.

Enrolment in this course is limited to 16 participants, so book early!

Photo: Mike Macri

Photo: LeeAnn Fishback

CHILLY IN CHURCHILL

The Ultimate Northern Experience as the CNSC's Winter Research Technician

By Krista Hannis

Upon arriving back home in September, I immediately began counting down the days until my return to the CNSC on February 10, 2008. I fell in love with Churchill very soon into my first summer field season in 2007, and was excited to get back and experience a completely different Churchill; one of ice, snow and extremely cold temperatures. I was welcomed back on my first night with a very hearty CNSC dinner, an amazing display of aurora borealis, and my same cozy bunk. Since then it's been a whirlwind of activity, and I'm learning something new each day.

"It's all very interesting and necessary research for understanding how northern ecosystems respond to climate change."

I have been planning my return since before I left last summer, expressing interest in assisting with the Earthwatch Institute's program *"Climate Change at Arctic's Edge"* run by Dr. Peter Kershaw and Dr. LeeAnn Fishback, in addition to the winter greenhouse gas flux study I had planned with Dr. Mario Tenuta and the Soil Ecology Laboratory at the University of Manitoba. With the assistance of NSERC's Northern Research Internship, University of Manitoba's Soil Science Department, and a 6 week work contract with the Churchill Northern Studies Centre, I am able to partake in many different research projects during the months of February and March.

The experience has been incredible! I have learned a tremendous amount about snow, how it forms, and how it changes spatially and temporally. I've finally mastered the Adirondack snow corer, and can cut through even the toughest of zastrugi (hard wind-packed drifts) with a little extra force! I also get to learn about methane and carbon dioxide diffusion through snow-packs. It's all very interesting and necessary research for understanding how northern ecosystems respond to climate change. To make the experience complete, I get to work with people from all over the world: Australia, United States, Japan, United Kingdom, Costa Rica and Kuwait in addition to the fantastic staff at the CNSC.

I am so glad I had this opportunity to physically and mentally put myself to the challenge of doing winter research work in Churchill. This has been the ultimate northern experience!

In the summer of 2007, Krista Hannis worked as a field assistant for CNSC Vice-Chair, Dr. Mario Tenuta. Following a brief fall sojourn in Winnipeg, she came back to…wait a minute! Krista left?

Northern **Research Fund** 2008

Photo: LeeAnn Fishback

Since the mid 1990's, the Churchill Northern Studies Centre has supported the work of researchers through our Northern Research Fund (NRF). The goal of the NRF program is to enhance field research conducted by scientists using the facilities and services of the CNSC. Awards include in-kind accommodation and vehicle use, travel vouchers and direct monetary support.

This year, 24 scientists will share in nearly $81,000 of funding for projects as diverse as the effects of climate change on arctic shorebirds, the monitoring of killer whale movements in Hudson Bay, and the vulnerability of shallow tundra ponds to drying. A complete list of all recipients and their projects can be viewed on our website at **www.churchillscience.ca**

"I don't know of any other research station in the world where I could have conducted this research, and indeed other Arctic researchers are often envious of the opportunities for long stays and technical support that are available to me at the CNSC." - Kate Edwards, Ph.D. Candidate, University of Toronto

This valuable program is made possible by the generous financial contributions of our members and the following organizations:

THE WORLD WILDLIFE FUND

CalmAir

Manitoba

Congratulations and best wishes for a safe and productive field season.

Winter Poetry

by Martin Nutt

Arctic storms blow over
Churchill, Manitoba.
The wind cuts through
Parka, hood, and shoe.
Ice riding the air
Strips all the trees bare.
Snow, frost, and chill
Destroy whom they will.

'Neath Northern Light glow
It's forty below.
A blizzard sweeps o'er
The Bay's frozen shore.
It does me no harm:
The welcome's so warm.

• Martin Nutt was a participant in our Winter Skies: Aurora and Astronomy Learning Vacation, March 2008. We imagine the train ride back to Winnipeg provided him with ample time to reflect on his experiences in Churchill.

Photo: Mike Waylen

Hugh Jones

CNSC REMEMBERS ONE OF OUR FOUNDERS

by Lorraine Brandson

It is with great sadness that we note the passing of Hugh Jones, one of the Centre's founders and great supporters on December 12, 2007. Hugh Jones was the General Manager of the Communities Economic Development Fund (Province of Manitoba) in the 1970s and 1980s. The efforts of the local community development corporation (through Robert Barrett and Bishop Omer Robidoux) to secure funding or to convince Manitoba universities to create a field station in Churchill were at a stand still. Bishop Robidoux had become a good friend with Mr. Jones through other related projects and Hugh accepted to investigate some other possibilities. His efforts to secure the Donner Canadian Foundation seed money of $35,000 started the ball rolling for the start up of the Churchill Northern Studies Centre. The Province matched the $35,000 donation, the locks were knocked off some vacant federal/territorial buildings in Akudlik, and the Centre commenced activities (1976).

Mr. Jones served on the Board until 1984 and he generously donated the services of one of his employees, Greg Goodwin to fulfill CNSC Corporate Secretary-Treasurer responsibilities. Hugh was an indomitable force on the Board and a great believer in its potential. While the Centre has always operated with a modest amount of money, these early days were extremely tight and Board meetings always seemed to function within a tense mode of how we were going to survive and more importantly, thrive. Key moves were made at this time like securing a dedicated on-site manager, Bill Erickson, and engaging Dr. Fred Cooke to set up the Centre's first university credit course programme.

Hugh Jones attended CNSC's 20th anniversary dinner in Churchill in 1996. His keynote speech was made with the same British spirit and humour he exhibited at our Board meetings. Those of us who worked alongside him will always remember him as a man to be reckoned with, a formidable ally, and most of all, a fierce friend of the Churchill Northern Studies Centre.

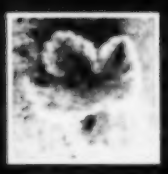
We express our heartfelt condolences to his daughters Claire and Isabel *(who worked one season as a summer librarian at the Centre)*. As we toast the success of our ongoing Capital Campaign let us take a moment to pause and thank those who helped bring us to this point. Your contributions are not forgotten. Au revoir, Hugh.

• Lorraine Brandson is the Curator of the Eskimo Museum, former CNSC Chair and friend of the Centre.

CONTEST

MYSTERYPHOTO

Arrrghhhh! Another mystery photo ends in contention and doubt? Our botanical sources seem divided between Northern Gooseberry (Ribes oxyacanthoides) and Northern Black Currant (Ribes hudsonianum). Short of sending the specimen (which I don't have) to Dr. Paul Hebert for DNA barcoding, I'm going to side with Linda Kershaw and say that it is, in fact, Northern Gooseberry. Which means I will unilaterally award the prize to Kate Ballantyne who incorrectly said it was the Northern Black Current but was at least in the same genus. Birdfish says, "Don't expect another mystery photo anytime soon, phooey!"



NOTES

Will the Real CNSC Please Stand Up

Recent controversy surrounding the temporary shortage of Canadian manufactured medical radio-isotopes resulted in more than a few extra visits to the Churchill Northern Studies Centre website by people looking for the Canadian Nuclear Safety Commission (the other CNSC). We wondered just who else shares our not-so-unique shorthand.

Canada National Salmon Conservation
Canadian National SCRABBLE® Championship
Canmore Nordic Ski Club (Alberta)
Cargo Network Services Corporation
Center for Nonviolent Social Change
Chinese Newcomers Service Center
Colts Neck Soccer Club (New Jersey)
Comisión National del Servico Civil (Spain)
Croatian National Sports Club

and our personal favourite:

Creative Needle Sewing Club

COMING IN THE NEXT ISSUE

Our annual fundraising Special Edition!

We've been working hard behind the scenes to lay the groundwork for some very exciting changes here at the Centre and we're ready to share some of the excitement with you!

Learn more about our generous donors, the team leading the design work for new facilities, and how you can help the CNSC achieve its goal of becoming Canada's Internationally Recognized Centre of Excellence for Northern Research and Education.

For information on how you can volunteer at the CNSC, contact Heather at: **cnsc@churchillscience.ca**

Established in 1976, the Churchill Northern Studies Centre is an independent, non-profit research station located along the western coast of Hudson's Bay.

BOARD OF DIRECTORS:
Peter Kershaw (Chair) – Member-at-Large
Mario Tenuta (Vice-Chair) – Users' Representative
Roxanne Chan (Treasurer) – Member-at-Large
Rick Bello (Secretary) – Member-at-Large
Matthew Bunka – Duke of Marlborough School
Raymond Kenyaweich – Manitoba Advanced Education and Literacy
Cam Elliott – Parks Canada
Norm Halden – University of Manitoba
Lenore Johnson – Member-at-Large
Steve Kearney – Manitoba Conservation
Louise Lawrie – Churchill Community Development Corporation
Terry McGonigle – Brandon University
Penny Rawlings – Churchill Chamber of Commerce
Terry Stover – Town of Churchill
Geri Sweet – University of Winnipeg
Michelle Beaton – 1st Alternate
Lorraine Brandson – 2nd Alternate

to understand and sustain the north

STAFF:
Executive Director
Michael Goodyear

Assistant Director
Dianne Howell

Program Coordinator
– Vacant

Fleet and Facilities Supervisor
Clifford Paddock

Maintenance Assistant
Vacant

Scientific Coordinator
LeeAnn Fishback, Ph.D.

Research Technician
Carley Besler

Cooking
Robert Ellsworth, Audrey Chislett

Housekeeping
Christine Neepin, Rose Neepin, Gina Beaulieu

Special Projects Assistant
Kim Daley

The CNSC is a registered Canadian charity in part supported by the Manitoba Department of Advanced Education and Training and the Natural Sciences and Engineering Research Council of Canada through a Major Facilities Access Grant.

The Birdfish Newsletter is produced by CNSC staff with assistance from researchers and program participants. Cover photo: Martin Döring

Latitude: 58° 44.169'N Longitude: 93° 49.89'W
PO Box 610, Churchill Road
Churchill, Manitoba
ROB 0E0 Canada
email: cnsc@churchillscience.ca
p: 204.675.2397
f: 204.675.2139
www.churchillscience.ca

churchillnorthernstudiescentre

Printed on 100% post-consumer waste recycled paper using vegetable based inks. PLEASE RECYCLE

Tax Deductible Receipts Now Available for US Donors

At long last, citizens of the United States can now receive tax-deductible receipts for contributions to the Churchill Northern Studies Centre over $250. The Tides Foundation's Global Support Fund (GSF) allows US based donors to make tax-deductible contributions to non US-based organizations like the CNSC. For over 30 years, Tides has been putting resources and people together – strengthening community-based nonprofit organizations and the progressive movement through innovative grantmaking.

Tides ensures that the non-U.S. organization is operating for charitable and/or educational purposes, processes contributions on behalf of the fund, and re-grants the donations to the organization in the form of strictly monitored *"expenditure responsibility grants."* The CNSC was accepted by Tides' GSF and donations can be made to the CNSC by sending checks payable to Tides Foundation at:

Tides Foundation
The Presidio
P.O. Box 29903
San Francisco, CA 94129

PLEASE NOTE: it is very important that the memo line clearly states Churchill Northern Studies Centre GSF to ensure your donation is received by the CNSC.

CanadaHelps.org

The easiest way to support northern research and education

We would like to remind all of our members that while the CanadaHelps.org website is a great way of making donations to the Churchill Northern Studies Centre, it should **NOT** be used for renewing your membership. CNSC staff would be happy to assist anyone with renewing their membership using our tear-out form, located below, or by phone, fax, or email.

COVER PHOTO • CNSC Instructor Roger Woloshyn captures the beauty of patterns emerging from the fractured ice of a small subarctic pond.